

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Claims 1-18. (Cancelled)

Claim 19. (New)

In a system for transmitting digital data over a wireless communications channel using a modulation technique producing a transmitted modulated digital data signal susceptible to multipath generated frequency selective fading, a method of controlling the gain in a receiver comprising:

at the transmitter, adding a random pattern spread spectrum gain signal to digital data to be transmitted and modulating the digital data;

at the receiver, detecting the magnitude of the received random pattern spread spectrum gain signal to determine, independent of multipath generated frequency selective fading, the power level of the received data signal.

Claim 20. (New)

In a system for transmitting digital data over a wireless communications channel using a modulation technique producing a transmitted modulated digital data signal susceptible to multipath generated frequency selective fading, a method of controlling the gain in a receiver comprising:

at the transmitter, adding a spread spectrum gain signal to digital data to be transmitted and modulating the data;

at the receiver, detecting the magnitude of the received spread spectrum gain signal to determine, independent of multipath generated frequency selective fading, the power level of the received data signal;

wherein said spread spectrum gain signal has a duration greater than the maximum multipath delay anticipated from said wireless communications channel.

Claim 21. (New)

The method of claim 19 wherein said receiver includes plural antennae, said step of detecting including detecting the magnitude of the spread spectrum gain signal received from each antennae;

said method further comprising:

determining which antenna is receiving a spread spectrum gain signal having the greatest gain; and

selecting the antenna to use based on the result of said step of determining.

Claim 22. (New)

The method of claim 19 wherein said system includes plural transmitters transmitting the modulated digital data signal including the spread spectrum gain signal;

said step of detecting including detecting the magnitude of the spread spectrum gain signal received from each of said plural base stations in which each base station performs time or frequency division;

said method further comprising:

determining which base station is transmitting the best modulated digital data signal based on the magnitude of the spread spectrum signal received from each base; and

selecting the best base station based on the decision in said step of determining.

Claim 23. (New)

In a system for transmitting a digital data signal over a wireless communications channel using a modulation technique producing a transmitted modulated digital data signal susceptible to multipath generated frequency selective fading, a transmitter comprising:

an automatic gain control pattern adder adding a random pattern to said digital data signal, without replacing or changing any of said digital data signal; and

a modulator modulating said digital data signal with said added random pattern;

said random pattern being usable by a receiver to determine the power

level of the received modulated digital data signal.

Claim 24. (New)

In a system for transmitting digital data over a wireless communications channel using a modulation technique producing a transmitted modulated digital data signal susceptible to multipath generated frequency selective fading, the system having a transmitter adding a random pattern to said modulated digital data signal, a receiver comprising:

an automatic gain control, receiving said modulated digital data and said random pattern and adjusting the gain of said received modulated digital data signal based on the level of said random pattern;

a demodulator demodulating said digital data signal to recover said digital data.

Claim 25. (New)

The receiver of claim 24 wherein said receiver further comprises:

plural antennae,

said automatic gain control detecting the magnitude of the random pattern received from each antennae;

a diversity antenna selector determining which antenna is receiving the random pattern having the greatest gain and selecting the antenna to use

corresponding thereto.

Claim 26. (New)

The receiver of claim 24 wherein said system includes plural transmitters transmitting the modulated digital data signal including the random pattern;

said automatic gain control detecting the magnitude of the random pattern received from each of said plural base stations;

said automatic gain control determining which base station is transmitting the best modulated digital data signal based on the magnitude of the random pattern received from each base station;

said system selecting the best base station based on the decision in said step of determining.

Claim 27. (New)

The transmitter according to claim 23, wherein said modulation technique is a TDMA modulation technique and said digital data is TDMA modulated digital data; and

wherein said digital data signal is a TDMA modulated digital data signal.

Claim 28. (New)

The system of claim 25 wherein said modulation technique is a TDMA

modulation technique and said digital data is TDMA modulated digital data;  
and

wherein said digital data signal is a TDMA modulated digital data signal.

Claim 29. (New)

The method according to claim 19, wherein said step of detecting  
determines the power level of the received data signal from said detected  
magnitude.